

### **REMARKS**

Claims 1, 2, 4, 6, 7, 9, 11, 12 and 14 are pending in the Application.

Claims 3, 5, 8, 10, 13 and 15 have been canceled

Claims 1, 2, 4, 6, 7, 9, 11, 12 and 14 have been amended.

### **Discussion of the objection to the claims**

Examiner has objected to claims 5 and 10 as having informalities.

Applicant has canceled claims 5 and 10.

### **Discussion of the rejections of the claims under 35 U.S.C. § 102**

Examiner has rejected claims 1 through 15 under 35 U.S.C. § 102 (b) as being anticipated by USPN 5,699,462 (Fouquet). Applicant has amended the claims to overcome the rejection. Below, Applicant sets out subject matter in each of the independent claims not disclosed or suggested by Fouquet. On this basis, Applicant believes all the pending claims are allowable.

### **Discussion of Independent claim 1**

Claim 1 sets out an optical switch. The optical switch includes a first waveguide, a second waveguide, sidewalls that form a trench, and a heating system that forms a bubble within the trench. A first sidewall of the trench impinges the first waveguide and a second sidewall impinges the second waveguide. When forming the bubble within the trench, the heating system conducts more heat to the first sidewall than to the second sidewall so that the

first sidewall is hotter than the second sidewall. This is not disclosed or suggested by Fouquet. For example, Figure 17 of Fouquet shows a heater 216 situated so that equal amounts of heat are conducted to waveguides 206 and 208.

#### **Discussion of Independent claim 6**

Claim 6 sets out an optical switch. The optical switch includes sidewall means, first waveguide means, second waveguide means and heating means. The sidewall means includes a first sidewall and a second sidewall of a trench. The first waveguide means and the second waveguide means are positioned so that when the optical switch is in a non-reflection mode, light travels between the first waveguide means and the second waveguide means. The heating means heats the trench so that a bubble is formed in the trench. The heating means is arranged to disproportionately heat the first sidewall so that when forming the bubble within the trench, heat from the heating system is disproportionately conducted to the first sidewall so that the first sidewall is hotter than the second sidewall. This is not disclosed or suggested by Fouquet. For example, Figure 17 of Fouquet shows a heater 216 situated so that equal amounts of heat are conducted to waveguides 206 and 208.

#### **Discussion of Independent claim 13**

Claim 13 sets out method for operating an optical switch. A trench is filled with index matching fluid so that light between a first waveguide and a second waveguide passes through a trench. A bubble is formed within the index


matching fluid so that light from the first waveguide is reflected at the trench to a third waveguide. The bubble is formed by heat so that a first sidewall of the trench is heated to be hotter than a second sidewall of the trench. The first sidewall impinges the first waveguide and the second sidewall impinges the second waveguide. This is not disclosed or suggested by Fouquet. For example, Figure 17 of Fouquet shows a heater 216 situated so that equal amounts of heat are conducted to waveguides 206 and 208.

### Conclusion

Applicant believes this Amendment has placed the present application in condition for allowance and favorable action is respectfully requested.

Respectfully submitted,

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